

ENTOMOLOGY.—*Notes on Pleochaetis Jordan, 1933, from Colombia, with the description of a new species* (Siphonaptera: Ceratophyllidae). PHYLLIS T. JOHNSON.<sup>1</sup> (Communicated by Robert Traub.)

There has been considerable confusion in the minds of specialists in Siphonaptera as to the status of *Pleochaetis equatoris equatoris* (Jordan, 1933) and *Pleochaetis apollinaris* (Jordan and Rothschild, 1921), due in part to our lack of knowledge of the true range of these forms. Recent collections of Siphonaptera from Colombia made by Dr. Philip Hershkovitz, Chicago Natural History Museum, have clarified the status of these two species by providing the male of *apollinaris* and the true female of *equatoris equatoris*, and have yielded a new species of the same genus as well. These are described, and a key to these forms and the remaining South American species, *Pleochaetis dolens quitanus* (Jordan, 1931) is included.

I am indebted to F. G. A. M. Smit of the British Museum (Tring) who graciously lent paratype specimens of *Pleochaetis apollinaris* (Jordan and Rothschild, 1921) and *P. equatoris equatoris* (Jordan, 1933), and who studied the holotypes of these species for me.

***Pleochaetis apollinaris*** (Jordan and Rothschild, 1921)

FIGS. 5, 9, 14, 18, 19, 22, 27, 29

*P. apollinaris* was described from two females *ex Mustela affinis*, savannah of Bogotá, Colombia. At hand are the paratype female of this species, lent by Mr. Smit, and one male and three females *ex Mustela frenata*, Río Balcones, Guasco, Dept. of Cundinamarca, Colombia, summer 1952, P. Hershkovitz collector. A diagnosis of the male of *P. apollinaris* and a brief description of the species follows.

**Diagnosis.**—(male) Close to *P. equatoris equatoris* (Jordan, 1933). Separable from *P. equatoris equatoris* and *P. dolens quitanus* (Jordan, 1931) by having two ventrolateral bristles on the eighth tergum (Fig. 22), not with one bristle in this position (Fig. 24). Further separable from *e. equatoris* in that the lowest large bristle on the posterior margin of movable finger is inserted well

above the level of the notch on the anterior margin of finger (Fig. 14, *F.*), not on a level with the notch (Fig. 15, *F.*); distal arm of ninth sternum with rounded proximal lobe bearing two relatively large bristles (Fig. 18), not with this lobe flattened and bearing three or four relatively large bristles (Fig. 17).

**Description.**—**HEAD:** Preantennal area with two rows of bristles, the first of seven medium-sized bristles, the second (ocular row) of three large bristles.

**THORAX:** Pronotum narrow, its dorsal margin not so long as dorsal comb spine. Pronotal comb of 19 or 20 spines.

\* **LEGS:** Protibia with six dorsal notches containing paired bristles (including apical group) (Fig. 9); meso- and metatibia with five dorsal notches proximal to the one unpaired dorsal bristle (Fig. 11).

**ABDOMEN:** Basal abdominal sternum of female with striations on posterior half very close together and strongly curved.

**MALE:** Eighth tergum (Fig. 22) with two ventrolateral bristles and four dorsolateral bristles; its caudal edge somewhat serrate. Eighth sternum (Fig. 27) with three rather heavy bristles on ventral margin subapically and several smaller bristles scattered along this margin. Distal arm of ninth sternum (Fig. 18) with proximal lobe smoothly rounded caudally and bearing a few small pale bristles plus two larger bristles. Shape of process and movable finger of clasper as in Fig. 14; the most ventral of the large bristles on *F.* inserted well above level of notch on anterior margin. Aedeagus (Fig. 19) with median dorsal lobe (*M.D.L.*) smoothly and broadly rounded dorsally, not heavily sclerotized; crochet (*CR.*) with narrowly rounded apex and concave postero-ventral margin.

**FEMALE:** Seventh sternum (Fig. 5, A, B, and C) with narrow sinus; lobe above sinus sharply rounded, small. Eighth tergum with about eight small bristles dorsal to the spiracle. Shape and size of spermatheca body variable; striations on body not extending on to base of tail (Fig. 29, A, B, and C); tail curved over body and its apex reaching level of insertion of spermathecal duct into body.

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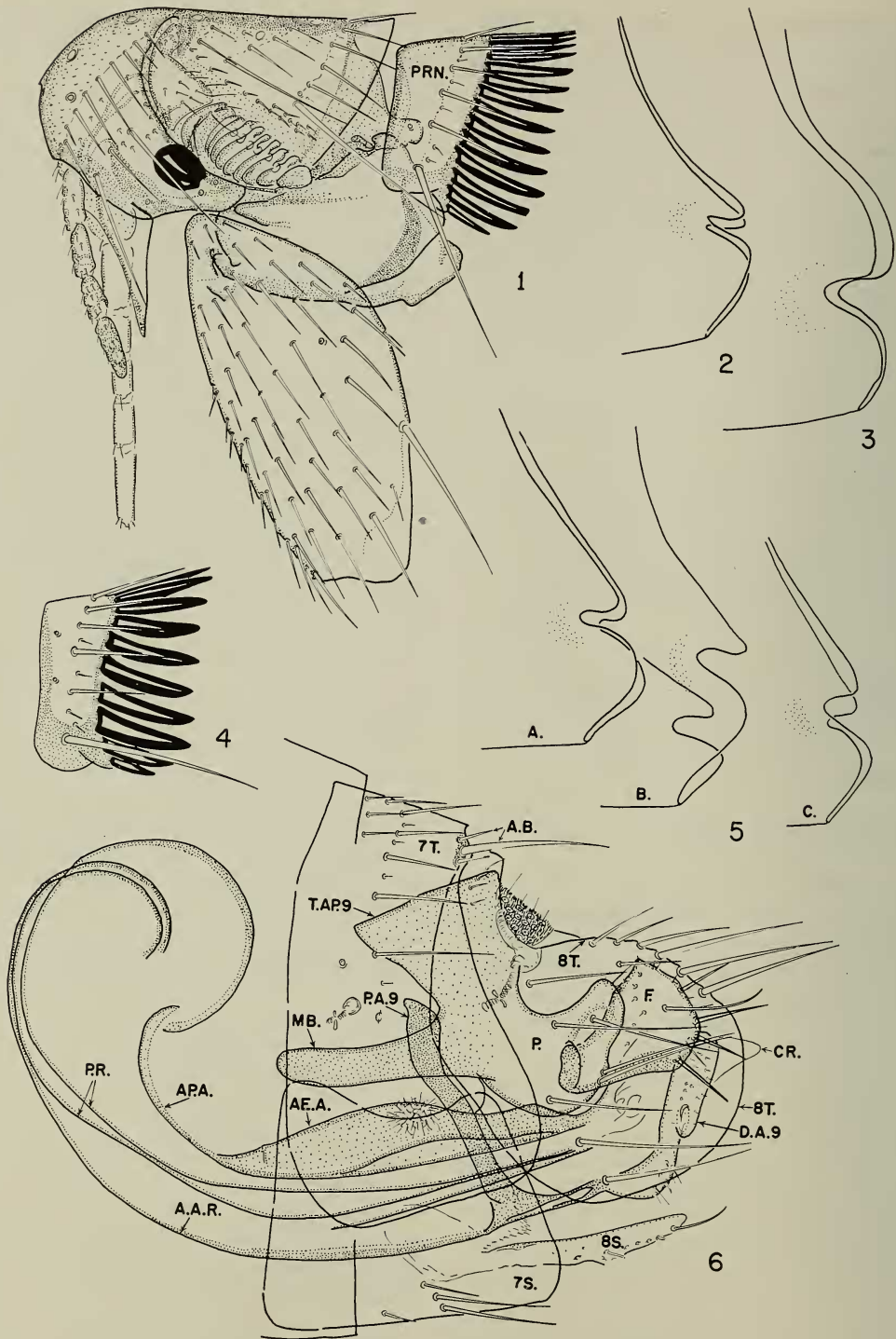


FIG. 1.—*Pleochaetis smiti*, n. sp.: Head and prothorax, holotype. FIG. 2.—*P. equatoris equatoris* (Jordan, 1933): Seventh sternum, female. FIG. 3.—*P. smiti*, n. sp.: Seventh sternum, allotype. FIG. 4.—*P. equatoris equatoris* (Jordan, 1933): pronotum, male. FIG. 5, A, B, and C.—*P. apollinaris* (Jordan and Rothschild, 1921): Seventh sternum variations, female. FIG. 6.—*P. smiti*, n. sp.: Modified segments, holotype.

*Lengths*.—Male 2.1 mm, females 2.2 mm (paratype) — 2.5 mm.

Male and one female deposited in the collections of the Chicago Natural History Museum; two females deposited in the collection of Robert Traub.

***Pleochaetis equatoris equatoris* (Jordan, 1933)**

FIGS. 2, 4, 11, 15, 17, 20, 24, 28, 30

Dr. Jordan described *P. equatoris equatoris* from two specimens; the holotype male *ex Sigmodon* sp., Quebrada of Pichan, west side of Pichincha, Ecuador, and a paratype female *ex Oryzomys* sp., Paramo de Guamani, road to Baiza, region oriental, Ecuador. While studying the specimens collected by Dr. HersHKovitz and the female paratype of *equatoris equatoris*, it became apparent that the female ascribed to *P. equatoris equatoris* (Jordan, 1933) is not that species, but a representative of the new species described later in this paper. One male and one female *Pleochaetis*, *ex Rhipidomys* sp., San Cristobal, Bogotá, Dept. of Cundinamarca, Colombia, July 9, 1952, P. HersHKovitz collector, have proved to be *P. equatoris equatoris* (Jordan, 1933). A diagnosis of the female and short description of the species follows.

*Diagnosis*.—(female) Separable from *P. dolens quitanus* (Jordan, 1931) in that the seventh sternum possesses a sinus (Fig. 2), not lacking sinus and with truncate ventrolateral lobe. Separable from *P. apollinaris* (Jordan and Rothschild, 1921) in that the spermatheca has striations extending on to base of tail, and apex of tail ends short of level of insertion of spermathecal duct into body (Fig. 30), not lacking striations on base of tail or with a longer tail (Fig. 29); eighth tergum with only four small bristles above spiracle, not eight.

*Description*.—Head, thorax, legs, and abdomen essentially as in *P. apollinaris*.

**MALE**: Movable finger of clasper with lowest bristle on caudal margin on a level with the notch on anterior margin (Fig. 15, *F.*). The Colombian specimen differs somewhat from holotype *e. equatoris* in shape of the movable finger, which is more rounded dorsally than in holotype, and the apical portion of the process (*P.*) which is broader than in the holotype. Eighth tergum (Fig. 24) with one ventrolateral bristle and two dorsolateral bristles. Eighth sternum (Fig. 28) similar to *apollinaris*. Distal arm of ninth sternum (Fig. 17) with proximal lobe squared, caudal

margin virtually straight, with three or four rather large bristles and several smaller ones. Median dorsal lobe of aedeagus (Fig. 20, *M.D.L.*) humped dorsally and heavily sclerotized; crochet (*CR.*) with somewhat squared apex and concave ventral margin.

**FEMALE**: Seventh sternum (Fig. 2) with narrow sinus and acutely rounded lobe above sinus (much as in *apollinaris*). Eighth tergum with four bristles above spiracle. Spermatheca (Fig. 30) with striations on base of tail, tail short, apically not reaching level of insertion of spermathecal duct into body.

*Lengths*.—Male 2.2 mm, female 2.7 mm.

Male and female deposited in the collections of the Chicago Natural History Museum.

***Pleochaetis smiti*, n. sp.**

FIGS. 1, 3, 6–8, 10, 12, 13, 16, 21, 23, 25, 26, 31

*Type data*.—Holotype male *ex Thomasomys laniger*, Paramo, Dept. of Antioquia, Colombia, Oct. 13, 1950, P. HersHKovitz collector. Allotype female *ibid.* but Oct. 12, 1950. Paratype female *ex Oryzomys* sp., Paramo de Guamani, road to Baiza, region oriental, Ecuador, July 27, 1951, Dr. F. Spillmann collector. Holotype and allotype deposited in the collections of the Chicago Natural History Museum; paratype returned to the British Museum (Tring).

It gives me great pleasure to name this species for F. G. A. M. Smit, of the British Museum (Tring), in recognition of his important contributions to the study of Siphonaptera, and his continual helpfulness to other workers in the field.

*Diagnosis*.—Male and female separable from all other known *Pleochaetis* in possessing a pronotal comb of 23 to 26 spines (Fig. 1, *PRN.*), not with 21 spines or less (Fig. 4). Protibia with seven dorsomarginal notches containing paired bristles (Fig. 8), not five or six such notches (Fig. 9); meso- and metatibia with six dorsal pairs of bristles proximad to only single bristle on dorsal margin (Fig. 10), not with five pairs in this position (Fig. 11).

*Description*.—**HEAD**, **MALE** (Fig. 1): Preantennal area with two rows of bristles, the ocular row consisting of three long bristles plus an anterior row of nine smaller bristles (six or seven in female). Three postantennal rows arranged (on a side) 3–5–7 in male, 3(2)–5(4)–6(7, 8) in female. Apical bristles on second antennal segment extending no more than half length of club.



THORAX (Fig. 7): Pronotal comb of 26 spines (23–25 in female), the most dorsal spines no longer than dorsal margin of pronotum (Fig. 1, *PRN.*). Mesonotum (*MSN.*) with three rows of bristles plus scattered anterior bristles. Metanotum (*MTN.*) with two and one-half or three irregular rows of bristles. Lateral metanotal area (*L.M.*) with vertical row of three bristles. Metepimere (*MTM.*) with two rows of bristles plus one sub-marginal posterior bristle.

LEGS: Procoxa with 35 or more external bristles excluding marginals. Protibia (Fig. 8) with seven dorsomarginal notches containing paired bristles. Meso- and metatibia with six dorsal notches containing paired bristles proximad to only single dorsal bristle (Fig. 10); metatibia with 19 or 20 bristles on external surface (15 or 16 in female), not including ventro- and dorsomarginal bristles.

ABDOMEN: Basal abdominal sternum of female with close-set striations on posterior half straight,

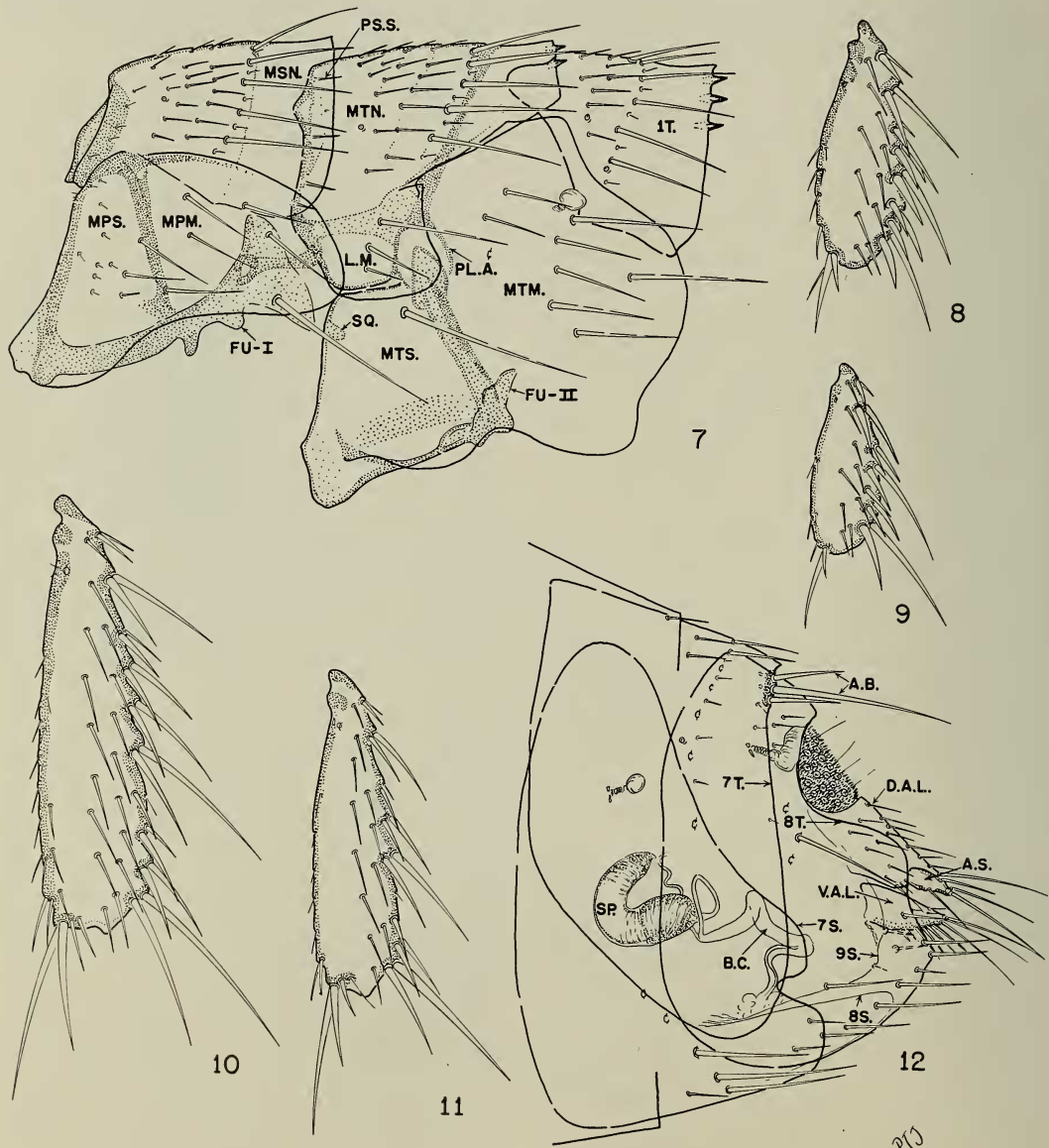


FIG. 7.—*Pleochaetis smiti*, n. sp.: Meso- and metathorax, holotype. FIG. 8.—*Ibid.*: Protibia, holotype. FIG. 9.—*P. apollinaris* (Jordan and Rothschild, 1921): Protibia, male. FIG. 10.—*P. smiti*, n. sp.: Metatibia, holotype. FIG. 11.—*P. equatoris equatoris* (Jordan, 1933): Metatibia, male. FIG. 12.—*P. smiti*, n. sp.: Modified segments, allotype.

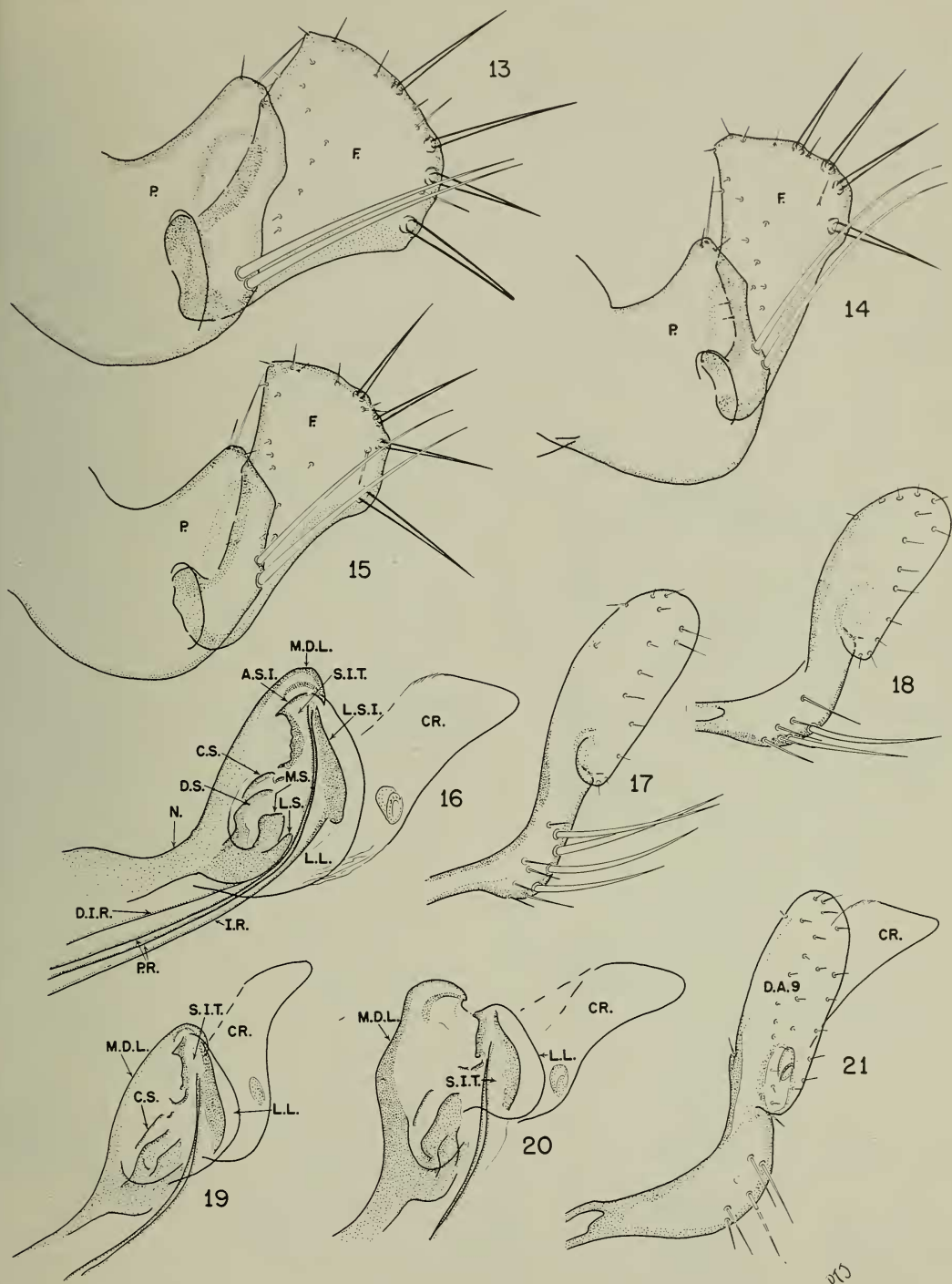


FIG. 13.—*Pleochaetis smiti*, n. sp.: Process and movable finger of clasper, male. FIG. 14.—*P. apollinaris* (Jordan and Rothschild, 1921): Process and movable finger of clasper, male. FIG. 15.—*P. equatoris equatoris* (Jordan, 1933): Process and movable finger of clasper, male. FIG. 16.—*P. smiti*, n. sp.: Apex of aedeagus, holotype. FIG. 17.—*P. equatoris equatoris* (Jordan, 1933): Distal arm of ninth sternum, male. FIG. 18.—*P. apollinaris* (Jordan and Rothschild, 1921): Distal arm of ninth sternum, male. FIG. 19.—*Ibid.*: Apex of aedeagus, male. FIG. 20.—*P. equatoris equatoris* (Jordan, 1933): Apex of aedeagus, male. FIG. 21.—*P. smiti*, n. sp.: Distal arm of ninth sternum, holotype.

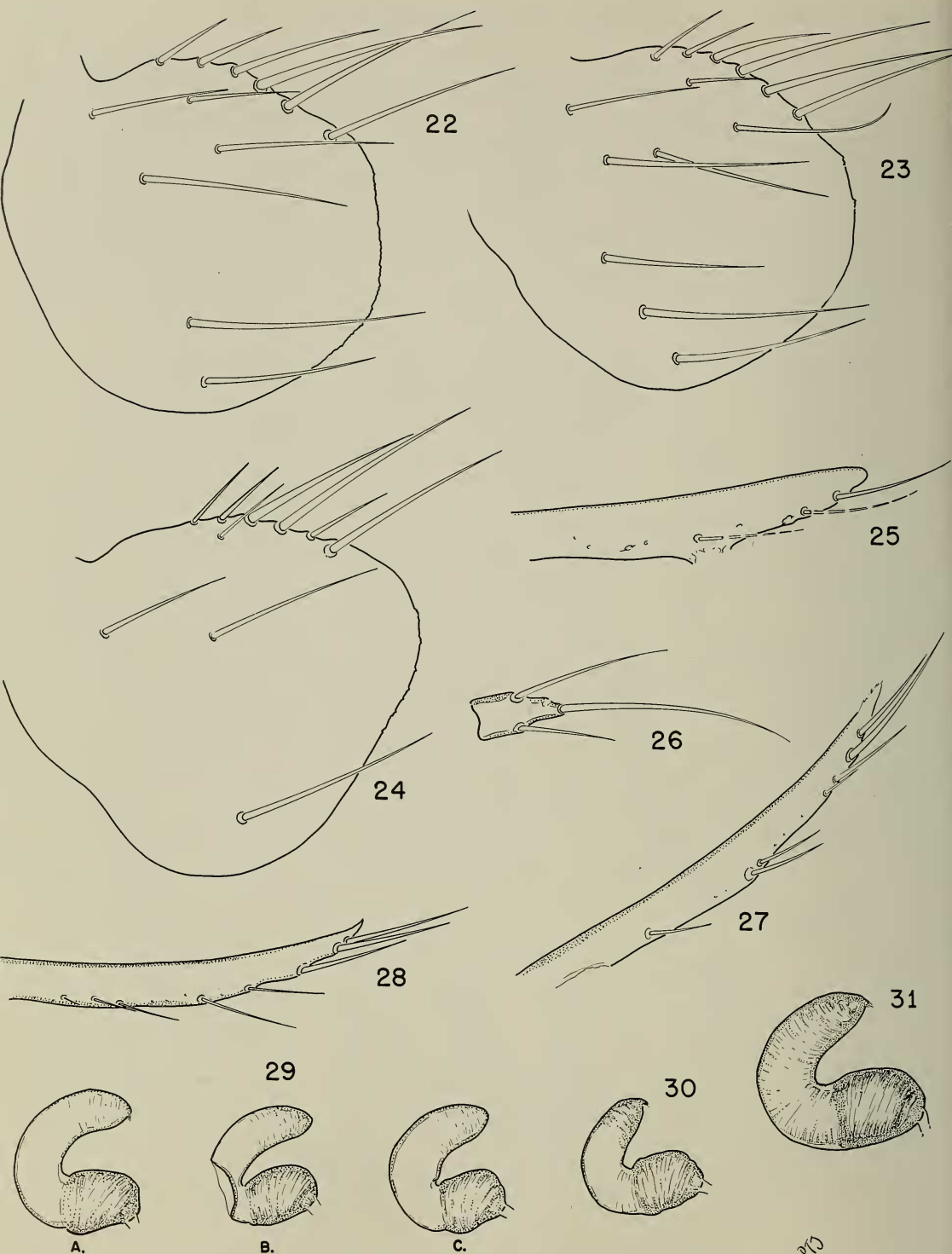


FIG. 22.—*Pleochaetis apollinaris* (Jordan and Rothschild, 1921): Eighth tergum, male. FIG. 23.—*P. smiti*, n. sp.: Eighth tergum, holotype. FIG. 24.—*P. equatoris equatoris* (Jordan, 1933): Eighth tergum, male. FIG. 25.—*P. smiti*, n. sp.: Eighth sternum, holotype. FIG. 26.—*Ibid.*: Anal stylet, allotype. FIG. 27.—*P. apollinaris* (Jordan and Rothschild, 1921): Eighth sternum, male. FIG. 28.—*P. equatoris equatoris* (Jordan, 1933): Eighth sternum, male. FIG. 29, A, B, and C.—*P. apollinaris* (Jordan and Rothschild, 1921): Spermatheca variations, female. FIG. 30.—*P. equatoris equatoris* (Jordan, 1933): Spermatheca, female. FIG. 31.—*P. smiti*, n. sp.: Spermatheca, allotype.

not markedly curved. With two well-developed rows of bristles on more anterior terga plus a few anterodorsal bristles. Apical spinelets on terga I-IV (both sides together) arranged 6-6-5-4 in male, 6(7)-6-4-2(4) in female.

MALE (Fig. 6): Eighth tergum (*ST.* and Fig. 6) with six dorsomarginal bristles, laterally, dorsal half with five bristles, ventral half with three bristles. Eighth sternum (*SS.* and Fig. 25) lacking a serrate apical appendage, broken and with most bristles missing (Fig. 25 shows estimated size and length of missing bristles). Immobile process of clasper (*P.* and Fig. 13) apically rather broad; dorsal portion of posterior margin almost perpendicular, followed by median shallow bay; acetabular bristles set on slight protuberance below this bay; the protuberance extending no farther caudad than upper "angle" above shallow bay. Movable finger (*F.* and Fig. 13) less than two times as high as broad, the lowest large bristle on posterior margin blunt apically, set somewhat below level of notch on anterior margin; margin above lowest bristle is broadly rounded. Distal arm of ninth sternum (*D.A.9* and Fig. 21) with proximal lobe broadly and evenly rounded caudally, most of bristles broken, but apparently with only relatively small bristles in this area (Fig. 21 shows estimated breadth and length of missing bristles). Aedeagal apodeme (*AE.A.*) with short neck (Fig. 6, *N.*) just anterior to endchamber; apical appendage (*AP.A.*) long. Apex of sclerotized inner tube (Fig. 16, *A.I.T.*) as long as crescent sclerite (*C.S.*); band of inner tube not visible. Median dorsal lobe (*M.D.L.*) evenly rounded dorsally, not heavily sclerotized. Crochets (*CR.*) with posteroventral margin slightly concave; dorsal margin straight, anterodorsal angle rounded, somewhat rugose.

FEMALE (Fig. 12): Posterior margin of seventh sternum (*7S.* and Fig. 3) bilobed, the lobes subequal, sinus between lobes rounded, broadly triangulate, much broader than in *apollinaris* and *equatoris*. Eighth tergum (*ST.*) with seven or eight small bristles above spiracle. Spermatheca (*SP.* and Fig. 31) with juncture of head and tail not marked, tail gradually narrowing to subrounded apex which does not extend as far as apex of body; tail with striations visible along entire length. Anal stylet (*A.S.* and Fig. 26) about two times as long as broad.

*Lengths.*—Holotype 2.8 mm, allotype 2.9 mm, paratype 3.2 mm.

# KEY TO THE SOUTH AMERICAN SPECIES OF PLEOCHAETIS JORDAN, 1933

1. Protibia with seven dorsal notches containing paired bristles (Fig. 7); meso- and metatibia with six dorsal notches containing paired bristles proximal to only single dorsal bristle (Fig. 10)..... *smiti*, n. sp.  
Protibia with five or six dorsal notches containing paired bristles (Fig. 9); meso- and metatibia with five dorsal notches containing paired bristles proximal to only single dorsal bristle (Fig. 11)..... 2
- 2.(1) Female seventh sternum lacking sinus in posterior margin, ventrolaterally truncate; movable finger of male with posterior margin evenly rounded  
*dolens quitanus* (Jordan, 1931)  
Female seventh sternum with narrow sinus (Fig. 5); movable finger of male with definite angle on posterior margin (Fig. 15, *F.*)..... 3
- 3.(2) Eighth tergum of female with four bristles above spiracle, base of spermatheca tail with striations (Fig. 30); male eighth tergum with one ventrolateral bristle (Fig. 24); lowest large bristle on posterior margin of movable finger inserted at level of notch on anterior margin (Fig. 15, *F.*)  
*equatoris equatoris* (Jordan, 1933)  
Eighth tergum of female with eight bristles above spiracle, base of spermatheca tail lacking striations (Fig. 29); male eighth tergum with two ventrolateral bristles (Fig. 22), lowest large bristle on posterior margin of *F.* inserted well above level of anterior notch (Fig. 14, *F.*)  
*apollinaris* (Jordan and Rothschild, 1921)

## LIST OF ABBREVIATIONS

A.A.R.	Aedeagal apodemal rod.
A.B.	Antesensilial bristle.
AE.A.	Aedeagal apodeme.
AP.A.	Apical appendage of aedeagal apodeme.
A.S.	Anal stylet.
A.S.I.	Apex of sclerotized inner tube, aedeagus.
B.C.	Bursa copulatrix.
CR.	Crochet, aedeagus.
C.S.	Crescent sclerite, aedeagus.
D.A.L.	Dorsal anal lobe.
D.A.9	Distal arm of ninth sternum.
D.I.R.	Dorsal intramural rod, aedeagus.
D.S.	Dorsal sclerite of apodemal strut, aedeagus
F.	Movable finger of clasper.
FU.I	Mesosternal furca.
FU.-II	Metasternal furca.
I.R.	Ventral intramural rod, aedeagus.
L.L.	Lateral lobe, aedeagus.
L.M.	Lateral metanotal area.
L.S.I.	Lateral sclerite of sclerotized inner tube, aedeagus.
MB.	Manubrium of clasper.



M.D.L. Median dorsal lobe, aedeagus.  
 MPM. Mesepimere.  
 MPS. Mesepisternum.  
 M.S. Median sclerite of apodemal strut, aedeagus.  
 MSN. Mesonotum.  
 MTM. Metepimere.  
 MTN. Metanotum.  
 MTS. Metepisternum.  
 N. Neck, aedeagus.  
 P. Immovable process of clasper.  
 P.A.9 Proximal arm of ninth sternum.  
 PL.A. Pleural arch.  
 P.R. Penis rods, aedeagus.  
 PRN. Pronotum.  
 PS.S. Pseudosetae.  
 S.I.T. Sclerotized inner tube, aedeagus.  
 SP. Spermatheca.  
 SQ. Squamulum.

T.AP.9 Tergal apodeme of segment nine.  
 V.A.L. Ventral anal lobe.  
 1T. First tergum.  
 7S. Seventh sternum.  
 7T. Seventh tergum.  
 8S. Eighth sternum.  
 8T. Eighth tergum.  
 9S. Ninth sternum.

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ZOOLOGY.—*New names for two genera of Octocorallia*. FREDERICK M. BAYER, U. S. National Museum.

During preparation of the chapter on Octocorallia for the Treatise on Invertebrate Paleontology, R. C. Moore, editor, it has come to my attention that certain generic names in the Coelenterata Octocorallia must fall as homonyms of accepted generic names in other animal groups. Two of these are the following:

(1) *Fascicularia* Viguier, 1888, page 186 [type, *Fascicularia radicans* Viguier = *Paralcyonium edwardsii* deLacaze-Duthiers]; *nec* Dybowski, 1873 (Tetracorallia); *non* Lyell, 1839 (Bryozoa); *non* Lamarck, 1816 (Hexacorallia). For this thrice preoccupied generic name I propose to substitute **Vigueriotes**, new name [type, *Paralcyonium edwardsii* de Lacaze-Duthiers, 1888]. The family based

upon this genus thus will henceforth be called **Viguerioidae**.

(2) *Stenella* J. E. Gray, 1870, page 48 [type, *Primnoa imbricata* J. Y. Johnson, 1862]; *nec* J. E. Gray, 1866 [Cetacea]. As a replacement for this preoccupied name I propose **Candidella**, new name [type, *Primnoa imbricata* J. Y. Johnson, 1862].

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## NOTICE

The Federation of American Scientists is making a new survey of the effects on science of the visa policies in existence under the present United States immigration act. They are interested in information about: (1) Individuals who wished to visit the United States for professional reasons but who have been prevented from coming because of visa refusal or delay. (2) Individuals who received invitations to come to this country on professional business (e.g., to attend meetings, as a visiting lecturer, etc.) but who refrained from applying for a visitor's visa because of present visa policies. (3) Visitors who experienced visa difficulties after reaching the United States. (4) Scientific congresses, meetings, or symposia that were not scheduled in the United States because of current visa policies.

The Federation would like information about such cases that have occurred in the past two years. It would be helpful if as many details as possible were given. In each specific case, the Federation would like to know to what extent this information must be treated as confidential. Information should be sent to the Federation of American Scientists Committee on Visa Problems, P. O. Box 1191, Stanford, Calif.